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Research on Teaching Methods and Talent Cultivation of Digital Media in Higher Vocational Colleges Empowered by AI

Lie Shan*

Anhui Communications Vocational & Technical College, Hefei 230051, Anhui, China

**Author to whom correspondence should be addressed.*

Abstract: Against the backdrop of AIGC driving the transformation of the digital media industry and a 300% surge in job demands, higher vocational education is presented with an opportunity to narrow the gap with undergraduate institutions. Anhui Communications Vocational and Technical College took the lead in exploring the empowerment of teaching by AIGC. By setting up a generative artificial intelligence micro-major and reconstructing the curriculum system, it integrated the latest AIGC large models and application tools into teaching, and enhanced classroom vitality through the "case demonstration + interactive discussion" mode. We have established AIGC training rooms, deepened school-enterprise cooperation, and, on average, over 100 students participate in practical enterprise projects each year [1]. Practice has proved that students' creative efficiency has significantly improved, with the winning rate in provincial competitions increasing by 40% and the employment rate in the metaverse field growing by 35%. The training model of "basic courses + tool training + industrial projects" constructed by the college provides a replicable model for the teaching reform of the digital media major in higher vocational colleges in the AIGC era [2].

Keywords: AIGC; Higher vocational education; Digital media teaching; Talent cultivation mode

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1. Research background

In the wave of rapid iteration of artificial intelligence technology, AIGC (Artificial Intelligence Generated Content) has become the core force driving the transformation of the digital media industry. From intelligent image generation to interactive video creation, AIGC has not only reshaped the content production process but also given rise to new professional forms such as virtual anchors and AI art design. According to industry reports, it is expected that by 2025, the demand for AIGC-related positions will increase by more than 300%, which poses an urgent transformation requirement for the talent cultivation of the Digital Media and Design major in higher vocational colleges.

In the current era, when the AIGC wave is sweeping through the digital media industry, vocational college

students are presented with unprecedented development opportunities. This technological innovation has significantly narrowed the gap between them and students from undergraduate institutions. First of all, the characteristic of higher vocational education that emphasizes practical teaching is highly consistent with the practical application requirements of AIGC. Compared with the training mode of undergraduate colleges that mainly focus on theoretical research, higher vocational colleges can quickly integrate AIGC tools into practical training courses. Through school-enterprise cooperation projects, students can operate AIGC tools in real scenarios and accumulate practical experience [3]. For instance, in the short video production course, vocational college students can quickly generate script frameworks and materials with the help of AIGC, efficiently completing the entire process practice from creativity to finished product. This "combination of learning and application" model enables them to rapidly enhance their technical application capabilities.

Secondly, the low-threshold feature of AIGC has broken through the traditional technological barriers. In the past, undergraduate students held an advantage in technology application due to their solid foundation in programming and algorithms. However, the graphical interface and modular operation of AIGC tools enable vocational college students to quickly get started without having to deeply master complex codes [4]. For instance, through the AI painting and intelligent editing functions of AIGC, vocational college students can devote more energy to creative conception and artistic aesthetic improvement, demonstrating their personalized advantages in content creation. In addition, in the early stage of the AIGC industry's development, more emphasis was placed on technical application capabilities and innovative thinking rather than academic background, which provided a broad employment space for vocational college students. When enterprises recruit for emerging positions such as virtual digital human design and AIGC content operation, they tend to hire talents who are proficient in operating AIGC tools and can learn quickly. Vocational college students, with their precise career positioning and practical experience, can compete on the same stage with undergraduate graduates and even demonstrate stronger adaptability and creativity in specific fields [5].

2. Research contents

2.1. Reconstruct a new teaching ecosystem in the AIGC wave

As a teacher of the Digital Media major at Anhui Communications Vocational and Technical College, I have witnessed the disruptive changes brought about by AIGC technology to teaching. In the past, we were always troubled by the problem of "rapid tool iteration and lagging teaching": Just after teaching students a piece of software, the industry had already updated three generations of tools. The textbooks haven't even warmed up yet, and new technologies have already become "old knowledge". It was not until AIGC entered the classroom that these predicaments saw a turning point [6].

When ChatGPT became extremely popular in 2023, our teaching team keenly sensed this technological trend and proactively applied to participate in various artificial intelligence seminars and training sessions. Upon our return, we immediately set about adjusting the syllabus of teaching materials and the talent cultivation plan. Facing the explosive demand for AIGC positions and the emergence of new occupations (such as AIGC Prompt engineers, AI artists, digital content generation consultants, etc.), we actively responded to the upgrading of traditional positions (positions such as film and television post-production and UI design require mastering AI tools to assist in work). By applying AI to generate mirrors or prototypes, product images, and renderings, relevant content has been added to the courses for the 2021 graduates of the Digital Media major in advance, allowing students to become familiar with related platforms and application scenarios such as ChatGPT,

MidJourney, and HiDream. In the 2024 freshmen training program, a special course titled "The Application of AIGC in Digital Media Technology" has been set up. Now, in our graphic and image processing class, students not only retouch pictures with Photoshop but also generate creative materials with Stable Diffusion. The film and television special effects class introduces Runway ML to generate cool transition special effects with just one click. We have even turned AI tools like Doubao and KIMI into "teaching assistants", using them to generate teaching cases and practice questions in real time, keeping the course content always in line with the cutting-edge of the industry [7,8].

The college level strongly supports the teaching team's exploration and practice of new technologies:

(1) Build AIGC LABS with high-performance GPUs and deploy localization tools to facilitate students to practice projects in AIGC LABS.

(2) Declared the first micro-major in the application of generative artificial intelligence in Anhui Province's higher vocational colleges, designed specialized courses for the students of the micro-major, and organized the students of the micro-major to participate in practical projects such as AIGC creative design and e-commerce advertising.

(3) Established a deep school-enterprise cooperation with Hidream.ai, a leading domestic AIGC large model enterprise, to enable teachers and students to apply the latest AIGC large model technology in the industry at the first time, and set up an AIGC internship base in the enterprise to provide students with sufficient internship opportunities.

The transformation of teaching methods brought about by new technologies has left a deeper impression on our teaching team. In the past, when explaining 3D modeling, it took an entire class to demonstrate the operation steps, and students were still confused. Now in the AIGC training room, I can generate 3D models with skeletal bindings with just one command, and then guide students to analyze the model structure and carry out secondary creation [9,10]. When it came to the theme design of "Future Cities", I led my students to generate over ten style concept images using Midjourney. We all sat around and discussed which color scheme was more tech-savvy and which composition was more visually striking. This "case demonstration + interactive discussion" model has truly brought the classroom to life.

In order to help students adapt to the industry's demand for "short cycle and high output", we have joined hands with Hidream.ai, a leading domestic AIGC large model company, to carry out practical project-based teaching. In the AI creative design projects that students participated in last year, some used HiDream to design the interactive interface, while others used DeepSeek to optimize the user guidance copy. Watching them grow from being unfamiliar with AIGC at the beginning to being able to skillfully combine tools to complete work, I truly felt the power of technology empowering teaching. Of course, we have not forgotten to cultivate students' "technical immunity" either. We have specially set up an AIGC ethics discussion session in the classroom to analyze copyright dispute cases and guide students to master technology with critical thinking.

2.2. Student practice: AIGC unlocks a new track for cultivating creative designers

As a student in a vocational college, when I first entered the school, I was always worried that I was not from an art background, so I would not be able to compete with students from art colleges in design and with those from undergraduate colleges in technology. However, the emergence of AIGC has completely changed the learning trajectory of students.

Do you still remember the first class of "AI-Assisted Creation"? The teacher asked the students to use the HiDream large model to generate a "cyberpunk-style campus". Everyone tried to input "Neon lights, floating

lane, Anhui Communications Vocational and Technical College", and after a few seconds, a campus scene full of a futuristic feel emerged on the screen. That shock is still unforgettable to this day - it turns out that one doesn't need superb painting skills to transform the creativity in their mind into visual works. Nowadays, when students do poster design, they first use Jiemeng to generate over ten sketches. After screening out the satisfactory composition, they use PS to refine the details. The efficiency has increased several times compared to before [11].

The AIGC training room has become the most beloved "creative base" among the students. In the virtual digital human project, team members collaborate and divide tasks: Some generate digital human models using Tencent Yuanbao, some handle lid-sync using Runway, and some are responsible for designing character clothing using Stable Diffusion. The short video assignment that used to take three weeks to complete can now be submitted in just one or two days, with AI automatically generating materials and creating background music. What's even more surprising is that students can also use AI to simulate a virtual studio and practice camera language without expensive equipment. This was simply unimaginable before.

These technologies not only enhance students' creative efficiency but also open up new horizons for their career development. Last year, our school participated in the Anhui Province College Students' Internet Plus Competition. The H5 work on the theme of rural revitalization generated by AIGC won the second prize at the provincial level. During the preparation period, Doubao helped optimize the copywriting, and HiDream assisted in designing the interactive interface. These "intelligent assistants" gave the contestants more confidence on the competition stage. Being the first to arm ourselves with AIGC has also enabled our teacher-student team to make considerable progress. Our classmates have frequently won awards in various competitions: we have been involved in the China Computer Design Competition and the Belt and Road and BRICS Skills Competition. The anxiety of being replaced by technology has long been transformed into enthusiasm for exploring the "human-machine symbiosis" creative model [12,13].

2.3. Take the lead, and the future is promising

In the exploration of AIGC empowering digital media teaching, Anhui Communications Vocational and Technical College has always been at the forefront of the province. As the first higher vocational college in the province to offer a micro-major in generative artificial intelligence applications, we have taken the lead in establishing an integrated talent cultivation model of "basic courses + AIGC tool training + industrial project practice." Since the full integration of AIGC technology into the digital media major curriculum system in 2023, more than 500 students have regularly participated in AIGC teaching practice. On average, over 100 students enter AIGC projects of partner enterprises, such as Zhixiang Future, for internships each year. Accumulate practical experience in cutting-edge fields such as virtual digital human development and AI content operation.

Through in-depth school-enterprise cooperation with the leading domestic AIGC large model enterprise, we not only introduce real project resources of the enterprise, but also jointly develop characteristic teaching materials such as "AIGC Digital Creativity Practical Tutorial", making the teaching content seamlessly connect with industry demands [14]. This innovative model has achieved remarkable results: the winning rate of students in AIGC-related events in competitions such as the Anhui Provincial Vocational Skills Competition and the China Computer Design Competition has increased by 40%, and the employment rate of graduates in the fields of metaverse and virtual reality has grown by 35% year-on-year. As the first higher vocational college in the province to fully implement the AIGC teaching reform, it provides a replicable and scalable model for talent cultivation for similar institutions.

3. Conclusion

Standing at the juncture when AIGC is reshaping the educational ecosystem, the exploration and practice of Anhui Communications Vocational and Technical College not only vividly responds to the proposition of "empowering education with technology", but also outlines a clear path for the innovative development of vocational education. From being the first to establish the micro-major of generative artificial intelligence application to building an integrated talent cultivation model of "learning, application and innovation"; From the course reconstruction that breaks down disciplinary barriers to the in-depth integration of resources through school-enterprise cooperation, the college, with the boldness of "daring to be the first in the world", has transformed AIGC technology into a powerful driving force for cultivating future creative designers. More than 500 students have mastered cutting-edge skills through regular teaching. On average, over 100 students connect with industry demands through practical training in enterprises each year. The winning rate of 40% in competitions has risen, and the employment rate in emerging fields has increased by 35%. Behind these figures lies the innovative fruits of the resonance between education and industry.

The value of this teaching reform lies far beyond the introduction of technological tools, but more importantly, it has established a brand-new educational model of "human-machine collaboration". Teachers have transformed from knowledge disseminators to innovation guides, and students have grown from passive recipients to creative explorers. AIGC is not only an "intelligent assistant" for enhancing efficiency but also an "inspiration engine" for stimulating imagination. When students can master AI generation technology to achieve precise creative expression and when teaching content always keeps pace with the industry's cutting-edge, the mission of vocational education to serve industrial upgrading is most powerfully interpreted [15].

As a benchmark for AIGC teaching reform in the province, the college's experience has become the "spark" for the innovative development of vocational education. In the future, we will continue to deepen the integration of industry and education, explore the application boundaries of AIGC technology in interdisciplinary fields, and enable more students to find their positions and realize their value in the wave of "AI + creativity". It is believed that with the continuous iteration of AIGC technology, the path for vocational education to cultivate high-quality skilled talents will become increasingly clear. More "future designers" who possess both technical literacy and artistic creativity will surely shine in the vast realm of the digital economy.

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